

GenCore version 5.1.4_p5_4578
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OM nucleic - nucleic search, using sw model

Run on: April 4, 2003, 22:41:32 ; Search time 391 Seconds
(without alignments)
9952.565 Million cell updates/sec

Title: US-09-847-081B-1
Perfect score: 1728
Sequence: 1 agaaacccagaagaacaac.....tcatcaaacctcaagttag 1728

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 2185239 seqs, 1125999159 residues

Total number of hits satisfying chosen parameters: 4370478

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Result No.	Score	Query Match	Length	ID	Description
1	1728	100.0	1728	AAI66366	Nicotiana tabacum
2	868	50.2	1826	AAV03880	Phytoene synthase
3	858.6	49.7	1795	AAV03878	Phytoene synthase
4	857.8	49.6	1712	AAI66367	Nicotiana tabacum
5	853.4	49.4	1814	AAV03881	Phytoene synthase
6	847.6	49.1	1591	AAQ99323	Melon phytoene-syn
7	840.4	48.6	1646	AAQ12495	Tomato fruit ripen
8	811.2	46.9	1316	AAV03879	Phytoene synthase
9	806.4	46.7	1239	AAZ99482	CDNA encoding a ph

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

10	692.4	40.1	2868	19	AAV16951	Nucleic acid encod
11	678.4	39.3	1921	19	AAV16949	Nucleic acid encod
12	670.4	38.8	2085	19	AAV16948	Nucleic acid encod
13	653.4	37.8	1932	19	AAV16950	Nucleic acid encod
14	578.6	33.5	1703	21	AAZ35120	Arabidopsis thalia
15	578.4	33.5	1566	21	AAZ48162	Arabidopsis thalia
16	548.2	31.7	1397	21	AAZ29145	Soybean phytoene s
17	512.2	29.6	1304	24	ABA97361	Nucleotide sequenc
18	456.8	26.4	992	24	AAZ29144	Soybean phytoene s
19	424	24.5	1448	21	AAZ29139	Corn phytoene synt
20	415.2	24.0	1239	19	AAV17247	MTOM5, modified ph
21	401	23.2	1021	21	AAZ29146	Wheat phytoene syn
22	388.8	22.5	1060	21	AAZ29143	Rice phytoene synt
23	290.6	16.8	2585	23	ABL41600	psy A encoding seq
24	251.4	14.5	888	21	AAZ29140	Corn phytoene synt
25	223.8	13.0	3485	13	AAQ29121	Fragment of GROM5
26	177.4	10.3	584	22	AAH44248	Phycomitrella pat
27	172	10.0	749	19	AAV03882	Phytoene synthase
28	170.2	9.8	476	21	AAZ29142	Rice phytoene synt
29	145.6	8.4	1386	13	AAQ29122	Fragment contg. pr
30	121.8	7.0	766	21	AAZ29141	Rice phytoene synt
31	59.2	3.4	56609	21	AAH81459	N. meningitidis pa
32	59.2	3.4	349980	21	AAZ21609	Neisseria meningit
33	59.2	3.4	1437668	21	AAA81490	N. meningitidis B
34	48	2.8	4590	22	AAH24065	Yeast AOD9604-asso
35	43.2	2.5	14041	22	AAH48024	Internal control B
36	42.2	2.4	948	19	AAV73180	C. utilis crtB DNA
37	41.8	2.4	332	19	AAV73190	C. utilis crtB DNA
38	41.6	2.4	102	21	AAZ59432	Sample Spirulina n
39	41.2	2.4	534	24	ABK39272	DNA encoding lung
40	41.2	2.4	11046	24	ABK31537	Signal transductio
41	40.8	2.4	6087	24	ABL32418	Human immune syste
42	40.6	2.3	330	23	AAZ90678	DNA encoding novel
43	40.4	2.3	7657	22	AAZ45477	Chemically pretrea
44	40.4	2.3	7657	24	ABL34022	Human immune syste
45	40.2	2.3	6078	24	ABL33244	Human immune syste

ALIGNMENTS

RESULT 1

AAI66366
ID AAI66366 standard; cDNA; 1728 BP.
AC AAI66366;
XX
DT 29-JAN-2002 (first entry)
XX
DE Nicotiana tabacum phytoene synthase coding sequence #1.
XX
KW Phytoene synthase; zeta carotene desaturase; herbicide; transgenic plant;
KW plant growth regulator; herbicidal; tobacco; ss.
XX
OS Nicotiana tabacum.

Key Location/Qualifiers
CDS 244..1566
FT /*tag= a
FT /product= "phytoene synthase"

DE10022362-A1.

15-NOV-2001.

08-MAY-2000; 2000DE-1022362.

08-MAY-2000; 2000DE-1022362.

(FARB) BAYER AG.

Busch M, Hain R;

DR WPI: 2002-027336/04.
DR P-PSDB; AAM51841.
XX New nucleic acid encoding tobacco zeta-carotene desaturase, useful for
PT screening compounds with herbicidal activity
XX Claim 14; Page 12-17; 4pp; German.
XX
CC The present invention provides the protein and coding sequences of
CC phytoene synthase and zeta-carotene desaturase from *Nicotiana tabacum*.
CC The sequences can be used to identify compounds capable of altering the
CC expression of these genes, which are therefore useful as plant growth
CC regulators and herbicides. They can also be used to produce transgenic
CC plants. The present sequence is the coding sequence of a tobacco
CC phytoene synthase.
XX
SQ Sequence 1728 BP; 513 A; 290 C; 433 G; 492 T; 0 other;
Query Match 100.0%; Score 1728; DB 24; Length 1728;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 1728; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 AGAAACCCAGAAAGAACACAGGTTTGGCTTCTTGTGTAGTGCATTTGGCTCTGCTT 60
DB 1 AGAAACCCAGAAAGAACACAGGTTTGGCTTCTTGTGTAGTGCATTTGGCTCTGCTT 60
QY 61 GTGTAAGCAAGTCGGTTTCTTCTATATCCGATTTTATAATCGTTGAATAGTG 120
DB 61 GTGTAAGCAAGTCGGTTTCTTCTATATCCGATTTTATAATCGTTGAATAGTG 120
QY 121 GATAGACTAGTGGATCTACAGATTTTGGTTTTTGTATAAATAGGCTGAGGTGAGA 180
DB 121 GATAGACTAGTGGATCTACAGATTTTGGTTTTTGTATAAATAGGCTGAGGTGAGA 180
QY 181 AGGTAAATAGGAAGAACAAACTTGGGAATGTTTGTAGACCCAGGTTCTTGT 240
DB 181 AGGTAAATAGGAAGAACAAACTTGGGAATGTTTGTAGACCCAGGTTCTTGT 240
QY 241 TTCATGAGCATGCTGTGTTTGTGTTGTTTCTCCACTTCCGAGGTCGGAAT 300
DB 241 TTCATGAGCATGCTGTGTTTGTGTTGTTTCTCCACTTCCGAGGTCGGAAT 300
QY 301 GGGACAGGATTTGGATTCAGTCCGAGAGGAACCGCTTTTGTATCATCCAGGTTT 360
DB 301 GGGACAGGATTTGGATTCAGTCCGAGAGGAACCGCTTTTGTATCATCCAGGTTT 360
QY 361 CTAGCTCGATAGGAATTTGATGTGGAATGGGAGAAATCAAGAAAGTGGAGACAAGG 420
DB 361 CTAGCTCGATAGGAATTTGATGTGGAATGGGAGAAATCAAGAAAGTGGAGACAAGG 420
QY 421 TGGAAATTTGGCTCTTCTGTACAGTCCAGTTTGGTGGCTAGCCAGCTGGGAGAAATG 540
DB 421 TGGAAATTTGGCTCTTCTGTACAGTCCAGTTTGGTGGCTAGCCAGCTGGGAGAAATG 540
QY 481 GAAAGGGAGACCTTCTCTGTACAGTCCAGTTTGGTGGCTAGCCAGCTGGGAGAAATG 540
DB 481 GAAAGGGAGACCTTCTCTGTACAGTCCAGTTTGGTGGCTAGCCAGCTGGGAGAAATG 540
QY 541 ACTGTGTCATCAGAGAAAAGGTTGATGTGTTATTAAGCAGGAGGCTTTAGTGAAG 600
DB 541 ACTGTGTCATCAGAGAAAAGGTTGATGTGTTATTAAGCAGGAGGCTTTAGTGAAG 600
QY 601 AGGAGCTGAGATCTACCGATGATTTAGAGTGAAGCCGGATATTTGTTCCAGGGAAT 660
DB 601 AGGAGCTGAGATCTACCGATGATTTAGAGTGAAGCCGGATATTTGTTCCAGGGAAT 660
QY 661 TTGGGCTTGTGAGTGAAGCATATGATGTTGGCGGAAGTATGTCAGAGTATGCAAG 720
DB 661 TTGGGCTTGTGAGTGAAGCATATGATGTTGGCGGAAGTATGTCAGAGTATGCAAG 720
QY 721 ACATTTTACTTAGGAACCAAGCTAATGACCCAGAGAGAAAGAGCTATCTGGGCAATA 780
DB 721 ACATTTTACTTAGGAACCAAGCTAATGACCCAGAGAGAAAGAGCTATCTGGGCAATA 780

QY 781 TATGTCTGTGTCAGAGAACGGATGAGCTTGTGTATGGCCCTATATGATCCACATAACT 840
DB 781 TATGTCTGTGTCAGAGAACGGATGAGCTTGTGTATGGCCCTATATGATCCACATAACT 840
QY 841 CCGCAAGCTTTAGATAGGTGGGAGACCAGGCTGGAAGATATTTTCACTGGCGGCCATT 900
DB 841 CCGCAAGCTTTAGATAGGTGGGAGACCAGGCTGGAAGATATTTTCACTGGCGGCCATT 900
QY 901 GATATGCTTGTATGCTCTTATCCGATACCTGCTCCAGATTTCTGTGTATATTCAGCCA 960
DB 901 GATATGCTTGTATGCTCTTATCCGATACCTGCTCCAGATTTCTGTGTATATTCAGCCA 960
QY 961 TTGAGAGATATGATGGAAGAAATGCGTATGAGCTTGTGGAAATCCAGATACAAACTTTC 1020
DB 961 TTGAGAGATATGATGGAAGAAATGCGTATGAGCTTGTGGAAATCCAGATACAAACTTTC 1020
QY 1021 GATGAGCTATATCTTATTTTACTTGTGCTGCTGCTAGGATTTGATGAGTGTTCCTCA 1080
DB 1021 GATGAGCTATATCTTATTTTACTTGTGCTGCTGCTAGGATTTGATGAGTGTTCCTCA 1080
QY 1081 GTTATGGGTATTCACCTGTAATCAAGGCAACACAGAGAGTGTATATATGCTGCTTTG 1140
DB 1081 GTTATGGGTATTCACCTGTAATCAAGGCAACACAGAGAGTGTATATATGCTGCTTTG 1140
QY 1141 GCTTTAGGCTTCCAAATCAACTAACCAATATCTCAGAGATGTAGGAGAGATGCCAGA 1200
DB 1141 GCTTTAGGCTTCCAAATCAACTAACCAATATCTCAGAGATGTAGGAGAGATGCCAGA 1200
QY 1201 AGAGGAAGAGTATCTTGTGCTCAAGATGAATAGCAGAGGAGGCTCTCCGAGCAAGAC 1260
DB 1201 AGAGGAAGAGTATCTTGTGCTCAAGATGAATAGCAGAGGAGGCTCTCCGAGCAAGAC 1260
QY 1261 ATATTTGCTGGAAGAGTACTGATAGTGGAGGAACCTTTATGAAGAAACAAATTCAGAGG 1320
DB 1261 ATATTTGCTGGAAGAGTACTGATAGTGGAGGAACCTTTATGAAGAAACAAATTCAGAGG 1320
QY 1321 GCAGAGAAATCTTGTGATGAGTCAAGAAAGGTTGTCAGAGAACTGGACTCTGCTAGTAGA 1380
DB 1321 GCAGAGAAATCTTGTGATGAGTCAAGAAAGGTTGTCAGAGAACTGGACTCTGCTAGTAGA 1380
QY 1381 TGGCTCTGTATTAACAGCGCTGCTTGTATCGCAAGATATTGGACGAGATTGAAGCCCAAC 1440
DB 1381 TGGCTCTGTATTAACAGCGCTGCTTGTATCGCAAGATATTGGACGAGATTGAAGCCCAAC 1440
QY 1441 GACTACAACTTCAAGAGGAGGCTTATGTTAGCAAGCCAAAGAGCTTCTCACTTTG 1500
DB 1441 GACTACAACTTCAAGAGGAGGCTTATGTTAGCAAGCCAAAGAGCTTCTCACTTTG 1500
QY 1501 CCCATTGCTTATGCATAATCTTGTGCCCCCTTAATAGAACTTCTCTCCACTAGCAAG 1560
DB 1501 CCCATTGCTTATGCATAATCTTGTGCCCCCTTAATAGAACTTCTCTCCACTAGCAAG 1560
QY 1561 ACATGAATGAAGTAGTTGAGTCAATGATGATATATACACTAAAGAACTCAGGTACTTCTGA 1620
DB 1561 ACATGAATGAAGTAGTTGAGTCAATGATGATATATACACTAAAGAACTCAGGTACTTCTGA 1620
QY 1621 AATGAGATATCTTTTGTGTAATGTTATCATCAAAAGTAGATTGTTAAATTCATATGACA 1680
DB 1621 AATGAGATATCTTTTGTGTAATGTTATCATCAAAAGTAGATTGTTAAATTCATATGACA 1680
QY 1681 ATCTCTGGTAGAATATTTTCTCCACACTCATCAACCCCTCAAGTGAG 1728
DB 1681 ATCTCTGGTAGAATATTTTCTCCACACTCATCAACCCCTCAAGTGAG 1728

RESULT 2
AAV03880
ID AAV03880 standard; cdna; 1826 BP.
XX
AC AAV03880;
XX
DT 29-APR-1998 (first entry)


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Db 1034 TTACCTCTATTGTTATTACGTTGCTGTACGTTGGTGTGATGAGTCTTCCAATTATGGG 1093
Qy 1089 TATTGCACCTGAATCAAGGCAACAACAGAGAGTGTATATAAGTCTGCTTGGCTTTAGG 1148
Db 1094 TATTGCACCTGATTCAAGGCAACAACAGAGAGCGTATATAAGTCTGCTTGGCTTTAGG 1153
Qy 1149 GCTTGCAAAATCAACTAACCAATATACCTACAGAGATGTAGGAGAGATCCAGAGAGGAAG 1208
Db 1154 AATGCAAAATCAACTAACCAATATACCTACAGAGATGTAGGAGAGATCCAGAGAGGAAG 1213
Qy 1209 AGTATACCTGCTCAAGATGAATATAGCAGGAGGCTCTCCGACGAAGACATATTGTC 1268
Db 1214 AGTCTACTTACCTCAAGATGAATATAGCAGGAGGCTCTCTCGACGATGACATATTGTC 1273
Qy 1269 TGGAGAGTACTGATTAAGTGGAGAACTTTATGAAGAAACAATTCAGAGGGCGAGAA 1328
Db 1274 TGSAAAATGACTGATTAAGTGGAGAACTTTATGAAGAAACAATTCAGAGGGCGAGAA 1333
Qy 1329 ATTCTTTGATGAGTCAGAGAAAGGTGTACAGAACTGGACTCTGCTAGTAGTGGCCTGT 1388
Db 1334 GTTCTTCATGAGGACAGAGGAGGTATACAACTGAGCTCAGCTAGCAGATGGCCTGT 1393
Qy 1389 GTTAACAGCGCTGCTGTGTATCGCAAGATATTGGACGAGATTGAAGCCACGACTACAA 1448
Db 1394 ATGGCATCTTTGCTGTGTACCGCCAAATACTGGACGAGATTGAAGCCATGACTACAA 1453
Qy 1449 CACTTCACAGGAGGCTTATGTAGCAAGCCAAAGAGCTTCTACCTTGGCCATTGC 1508
Db 1454 CACTTCACAGGAGGCTTATGTAGCAAGCCAAAGAGCTTATTCCTTACCTATTGC 1513
Qy 1509 TTATGCAAAATCTTGTGCCCCCTAATAGAACT-TCCTTCCACTAGCAAGACATGAA 1567
Db 1514 TTATGCAAAATCTTGTGCCCCCTAAGAACTCTTGTACCTCTAGCTAAGGCATAGA 1573
Qy 1568 TGAAGTAGTGAGTCAATGATATTATACACTA----AAGAACTCAGGTACTTGTAAAT 1623
Db 1574 CATCAGATTTAAATTAAGCAAGAAAGCATATACTGTTAAAGAAAGAAATTTCTAAG 1633
Qy 1624 GAGATATCTTT-----TGTAAATGTATATCATCAAAAGTAGATTGT-AAATTCATA 1675
Db 1634 TAGATATTGTTGATGATGCACTTGTATATCATCAAAAGTAGGTAGTAAATCCATA 1693
Qy 1676 TGCAATCTCTTG 1688
Db 1694 TAACAATCTCTAG 1706

```

RESULT 5

AAV03881
ID AAV03881 standard; cDNA; 1814 BP.

XX AAV03881;

AC AAV03881;

DT 29-APR-1998 (first entry)

XX Phytoene synthase coding sequence from N. tabacum.

DE Phytoene synthase; transgenic plant; enhanced carotenoid synthesis;

KW ultra violet absorber; food colour; ss.

XX Nicotiana tabacum.

PH Key Location/Qualifiers

FT CDS 363..1595

FT /*tag= a

XX US5705624-A.

XX 06-JAN-1998.

XX 27-DEC-1995; 95US-0579667.

XX

PR 27-DEC-1995; 95US-0579667.

XX (DELL/) DELLA-CIOPPA G R.

PA (FITZ/) FITZMAURICE W P.

PA (GRILL/) GRILL L K.

PA (HELL/) HELLMANN G M.

PA (KUMA/) KUMAGAI M H.

PI Della-Ciooppa GR, Fitzmaurice WP, Grill LK, Hellmann GM;

PI Kumagai MH;

XX WPI; 1998-086196/08.

DR P-PSDB; AAW41060.

XX DNA encoding tobacco phytoene synthase polypeptides - useful for

PT producing recombinant polypeptides or transgenic plants

XX Claim 1; Column 33-36; 25pp; English.

XX This sequence encodes the phytoene synthetase from Nicotiana tabacum.

CC The phytoene synthetase coding sequence represents a cDNA of the

CC invention. The isolated nucleic acid molecules are used for producing to

CC recombinant polypeptides or transgenic plants with enhanced ability to

CC synthesize carotenoids. Phytoene has been used as a ultra violet absorber

CC and other carotenoids have been used as food colours, animal feeds and in

CC the pharmaceutical and cosmetics industries.

XX Sequence 1814 BP; 577 A; 281 C; 441 G; 515 T; 0 other;

Query Match 49.4%; Score 853.4; DB 19; Length 1814;

Best Local Similarity: 76.5%; Pred. No. 5.2e-233;

Matches 1223; Conservative 0; Mismatches 266; Indels 110; Gaps 10;

Qy 141 TACAAGTATTGGTTTTTTTGAATAATAGCTGAGTGAGAGG-----TAACATAAAG 193

Db 250 TAAATTTATTAAATTTTATAAATTAAGCAGAGAGGAAGAAACAGAAACAGAAAG 309

Qy 194 GAAGACAAAACCTGGGAATTTTGTAGACCACCGAGGTTTCTTGTTCATGAGCATGT 253

Db 310 TAAGACAAAACCTGGGAATTTTGTAGAAAACCAAGGTTTCTCTGTTCATAA---ATGT 366

Qy 254 CTGTTGCTTTGTTGCTGCTGCTCCACTTCCGAGTCTCGAATGGGACAGGATGT 313

Db 367 CTGTTGCTTTGTTGCTGCTGCTCCACTTCCGAGTCTCGAATGGGACAGGATGT 423

Qy 314 TGGATTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 373

Db 424 TGGATTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 471

Qy 374 GGAATTTGATGTTGGAATGGGAGATCAAGAAGGTGGGAGACAAAGTGGATTTGGCT 433

Db 472 GGAATTTGATGTTGGAATGGGAGATCAAGAAGGTGGGAGACAAAGTGGATTTGG-- 529

Qy 434 CTTTAATTTGCTGATCCCAAGATATTTCATCTTGGGTGGATCAAGAACTGAAAGGGAAGCA 493

Db 530 ----- 529

Qy 494 CTTTCTCTGTACAGTCCAGTTTGGTGGCTAGCCAGCTGGAGAAAT---GACTGTGTCTAT 550

Db 530 ----TTCGTGAAGTCTGCTATGCTGCTACACCGCGGGAGAAATGCGGACGATGACAT 585

Qy 551 CAGAAAAAAGGTGTATGATGTTGTTTAAAGCAGGAGCTTTAGTGAAGAGGCGAGCTGA 610

Db 586 CAGAACAGATGGTTTATGATGTTGTTTAAACAAAGCAGCTTTAGTGAAGAGGCGAGTTGA 645

Qy 611 GATCTACCGATGATTAGAAAGTGAAGCGGATATTGTTTCCAGGGGAATTTGGCTTGT 670

Db 646 GATCTGCTGATGATTAGAAAGTGAAGCGGAGATCCCTCTCCCGGGGAATTTGACCTGT 705

Qy 671 TGAGTGAAGCATATGATCGTTTGTGCGGAAGTATGTGCAAGATATGCAAGACATTTTACT 730

Db 706 TGAGTGAAGCATATGATGAGGTGTAGTGAGGTATGTGCAAGATATGCAAGACATTTTACT 765

QY 731 TAGGAACCAAGCTAATGACCCAGAGAGAGAGAGAGAGAGCTATCTGGCAATATATATGTGGT 790
DB 766 TAGGAACCAAGCTAATGACCTACAGAGAGAGAGAGAGAGAGCTATTTGGCAATATATGTGGT 825
QY 791 CGAGAGAACGGATGAGCTTCTGATGCCCTAATGATCCACATACCTCCGCAAGCTT 850
DB 826 CGAGAGAACGGATGAGCTTCTGATGCCCTAATGATCCACATACCTCCGCAAGCTT 885
QY 851 TAGATAGTGGGAGCAGGCTGGAAGATATTTTCACTGGGCGGCAATTTGATATGCTG 910
DB 886 TAGATAGTGGGAGCAGGCTGGAAGATATTTTCACTGGGCGGCAATTTGATATGCTG 945
QY 911 ATGCTGCTTTATCCGATATCTGCTCCAGATTTCTGTTGATATTCAGCCATTCAGAGATA 970
DB 946 ATGCTGCTTTATCCGATATCTGCTCCAGATTTCTGTTGATATTCAGCCATTCAGAGATA 1005
QY 971 TGATTAAGGAATCGGTATGACCTGTTGGAATCCAGATACAAAACITTCGATGAGCTAT 1030
DB 1006 TGATTAAGGAATCGGTATGACCTGTTGGAATCCAGATACAAAACITTCGATGAGCTAT 1065
QY 1031 ATCTCTATTGTTACTATCTGCTGCTAGTATGAGTATGATGAGTGTTCAGCTTATGGTA 1090
DB 1066 ACCTCTATTGTTACTATCTGCTGCTAGTATGAGTATGATGAGTGTTCAGCTTATGGTA 1125
QY 1091 TTGCACCTGAATCAAGGCAACACAGAGAGTGTATATTAATGCTGTTTGGCTTTAGGCG 1150
DB 1126 TTGCACCTGAATCAAGGCAACACAGAGAGTGTATATTAATGCTGTTTGGCTTTAGGAA 1185
QY 1151 TTGCAATCAACTACCAATATCTACAGATGTAGGAGAGATGCCAGAGAGGAAG 1210
DB 1186 TTGCAATCAACTACCAATATCTACAGATGTAGGAGAGATGCCAGAGAGGAAG 1245
QY 1211 TATACCTGCTCAAGATGAATAGCAGAGGCTCTCCGAGCAACATATTTGCTG 1270
DB 1246 TCTACTTACCTCAAGATGAATAGCAGAGGCTCTCTCGAGATGACATATTTGCTG 1305
QY 1271 GAAGAGTCACTGATGAAGTGGAGAACTTTTGAAGAAACAATTCAGAGGCGGAGAAAT 1330
DB 1306 GAAGAGTCACTGATGAAGTGGAGAACTTTTGAAGAAACAATTCAGAGGCGGAGAAAT 1365
QY 1331 TCTTTGATGAGTCAAGAGAAAGTGTACAGAGAGTGTGCTGCTAGTATGAGTGGCTGCT 1390
DB 1366 TCTTGTGATGAGGAGAGAGAGAGTGTACAGAGTGTGCTGCTAGTATGAGTGGCTGCT 1425
QY 1391 TAACAGCCTGCTGCTGTATCCAGATATTTGAGAGATTTGAGCCCAACGACTACAACA 1450
DB 1426 GGGCATCTTTGCTGTTGTACCCCAATATCTGGAGAGATTTGAGCCCAACGACTACAACA 1485
QY 1451 ACTTCAGAGAGGCTTATGTTAGCAAGCAAGAGAGCTTCTACCTTGGCCATTTGCTT 1510
DB 1486 ACTTCAGAGAGGCTTATGTTAGCAAGCAAGAGAGCTTCTACCTTGGCCATTTGCTT 1545
QY 1511 ATGCAAAATCTCTGCTGCTTATCAACT-TCCTCTCCACTAGCAAGAGACATGATG 1569
DB 1546 ATGCAAAATCTCTGCTGCTTATCAACTTGTGCTACCTTGTGCTAGCTAGCAAGAG 1605
QY 1570 AAGTAGTGTGAGTCAATG-----AGTATTATACACTAAAGAACTCAGGTACTTGTAAA 1622
DB 1606 TCAGATTTAAATTAAGCAAGAAACCATATATTACTATTAAAGAAAGATTTCTAAA 1665
QY 1623 TGAGATATCTTT-----TGCTAAATGTATCATCAAAAGAGTAGATGT-AAAATCAAT 1674
DB 1666 GTAGATATTTGTTATGATGCTTGTATATCATCAAAAGTAGTAGTAAATCCAAT 1725
QY 1675 ATGCAAAATCTCTGCTGCTTATTTTCCACACTATC 1713
DB 1726 ATAACAATCTCTAGTAGTGTATGTTCAATCTTTAAGC 1764

RESULT 6

AAQ99323

ID AAQ99323 standard; cDNA; 1591 BP.

XX

AC AAQ99323;

XX 13-APR-1996 (first entry)

XX Melon phytoene-synthase gene.

XX melon; phytoene-synthase; ripening; cDNA library; fruit; MEL5;
KW tomato; TOM5; probe; hybridisation; polymerase chain reaction; PCR;
KW antisense; transgenic plant; crop improvement; carotenoid; vector;
KW ss.

XX Cucumis melo.

XX WO9602650-A2.

XX 01-FEB-1996.

XX 06-JUL-1995; 95WO-GB01603.

XX 22-SEP-1994; 94GB-0019081.

XX 18-JUL-1994; 94GB-0014505.

XX (ZENE) ZENECA LTD.

XX Grierson D, John I, Karvouni Z, Taylor J, Turner A;

PI Watson C;

XX WPI; 1996-105912/11.

XX New isolated DNA encoding melon phytoene synthase - used to
PT transform plants to modify carotenoid content and related
PT characteristics in plant parts, partic. fruit
XX Claim 2; Page 15-16; 22pp; English.XX The sequence encodes melon phytoene-synthase (MEL5 gene), and is
CC almost full-length. The sequence has been isolated as a cDNA clone
CC from a ripening-related cDNA library derived from climacteric melon
CC fruit, using the tomato phytoene-synthase cDNA (TOM5) as a
CC heterologous probe. The MEL5 gene 5'-end has also been isolated by
CC polymerase chain reaction and sequenced. The DNA may be used in
CC sense or antisense constructs to modify gene expression in plants.
CC The carotenoid content and related characteristics of plant parts
CC (particularly fruit) may be modified in this way.

XX Sequence 1591 BP; 507 A; 237 C; 395 G; 452 T; 0 other;

Query Match 49.1%; Score 847.6; DB 17; Length 1591;

Best Local Similarity 77.6%; Pred. No. 2.2e-231;

Matches 1136; Conservative 0; Mismatches 249; Indels 79; Gaps 6;

QY 101 TATATCTCTGAAATAGTGGATAGACTCTAGTGGATATCTAC---AAGTATTGGTGT 157

DB 116 TAAATTTGTTGAGAGTGGAAATATCTCTAGTGGAAATCTAGGAGTAATTTATTT 175

QY 158 TGATAAATAGCTGCTGAGAGGTGAGAAATACATAAAGAAAGACAAACCTTGGCAATGT 217

DB 176 CTATAAATAGTAAAGTTTGAAGGTGACA-AAAAGAAAGACAAAATCTTGAATGT 234

QY 218 TTTAGCAACCGAGGTTTCTTTTCATGAGCATGCTGCTGTTGTTGTTGGTGTGTTT 277

DB 235 TTTAGCAACCAAGGT---TTTCTTGTCTCAGAATGCTGCTGCTTGTATGGTGTGTTT 291

QY 278 CTCCCACTCCGAGGCTCGAATGGACAGAGATTTGATTCAGTCCGAGAGGAAC 337

DB 292 CTC---CTGTGACGCTCAAAATGGACAAGTTTCATGGAATCAGTCCGAGGGAAC 348

QY 338 GCGTCTTTGATCATCCAGGTTCTTAGCTCGAGATAGGAATTTGATGTGGAATGGAGAA 397

DB 349 GTTTTTTGTATCATCGAGG-----CATAGGAATTTGGTGTCCAATGAGAGAA 396

QY 398 TCAAGAAAGGTGGGAGACAAAGGTGGAATTTTGGCTCTTTAATTTGCTGATCCAAGATATT 457

Db 397 TCAATAGAGT----- 407
Qy 458 CATGCTGGTGGATCAAGAACTGAAAGGGAAGCACTTTCTGTACAGTCCAGTTGG 517
Db 408 -----GGTGAAGCAAACTAATAATGACGGAATTTCTGTACGGTCTCTATTT 459
Qy 518 TGGCTAGCCCACTGGAGAAATGACTGTGTCATCAGAGAAAAGGTGTATGTGTAT 577
Db 460 TGGTACTCCATCTGGAGAACGGAGATGACATCGGACAGATGGTCTATGATGTGTTT 519
Qy 578 TAAAGCAGCAGCTTTAGTGAAGGAGGAGCTGAGATCTACCGATGATTTAGAACTGAAGC 637
Db 520 TGAGCAGCAGCCTTGGTGAAGAGGCACTGAGATCTACCAATGAGTTAGAGTGAAGC 579
Qy 638 CGGATATGTTTCCAGGGAATTTGGCTTTGTTGAGTGAAGCATATGATCGTTGGCG 697
Db 580 CGGATATACCTATTCCGGGGAATTTGGCTTTGTTGAGTGAAGCATATGATAGTGTGGTG 639
Qy 698 AAGTATGTCAGATATGCCAAGACATTTACTTTAGAACCACTAATGACCCAGAGA 757
Db 640 AAGTATGTCAGATATGCCAAGACATTTACTTTAGAACCTATCTAATGACTCCGAGA 699
Qy 758 GAAGAAGAGCTATCTGGCCATATATGTGTGTCAGAGAACGAGTGTGCTTGTATG 817
Db 700 GAAGAGGCTATCTGGCCATATATGTGTGTCAGAGAACGAGTGTGCTTGTATG 759
Qy 818 GCCATATGTCATCCAGCACTCCGCAAGCTTTAGATGGTGGAGACCAAGCTGGAAG 877
Db 760 GCCCAAGCAGCATATATATCCCGGAGCTTAGATAGTGGGAAATAGGCTAGAAG 819
Qy 878 ATATTTTCAGTGGCGCCATTTGATATGCTGTGATGCTGTTTATCCGATCTCTCCA 937
Db 820 ATGTTTTCAATGGCGGCCATTTGACATGCTGCTGCTGCTTGTGCTGCTGCTA 879
Qy 938 GATTTCTGTTGATATTCAGCACTCAGAGATATGATTGAAGGATGCGTATGACTTGT 997
Db 880 ACTTTCAGTTGATATTCAGCCATTCAGAGATATGATTGAAGGATGCGTATGACTTGA 939
Qy 998 GGAATCCAGATACAAACTTTTCGATGAGCTATATCTCTATTGTTACTATGTTCTGGTA 1057
Db 940 GAAATCCAGATACAAAACTTCGACGAACCTATACCTTTATTGTTATTATGTTCTGGTA 999
Qy 1058 CTGTAGGATTCAGTGTCTCCACTTATGGTATGTTGACCTGATCAAGGCAACACAG 1117
Db 1000 CGTGTGGTGTAGAGTGTCCCAATATGAGTATGCGCCCTGATCAAGGCAACACAG 1059
Qy 1118 AGAGTGTATATGCTGCTTTGGCTTTAGGGCTTGCAAAATCAAACTAACCAATATCTCA 1177
Db 1060 AGAGCGTATATGCTGCTTTGGCTCTGGGATCGCAAAATCAATTAACTAACATCTCA 1119
Qy 1178 GAGATGTAGGAGAGATGCCAGAGAGAGAGATATCTTCCCTCAAGATGAATAGCAC 1237
Db 1120 GAGATGTGGAGAGATGCCAGAGAGAGAGATCTTCTTCCCTCAAGATGAATAGCAC 1179
Qy 1238 AGCAGGCTCTCCGACAGACATATTTGCTGGAAGAGTCACTGATGAAGTGGAGGACT 1297
Db 1180 AGCAGGCTCTATCGATGAAGATATTTGCTGGAAGGTTGACCCGATTAATGAGGATCT 1239
Qy 1298 TTATGAAGAAACAAATTGAGAGCGGAGGAATTTCTTTGATGAGTCAGAGAAAGGTGCA 1357
Db 1240 TTATGAAGAAACAAATACATAGGCAAGAAAGTTCTTTGATGAGGAGAGAAAGCGTGA 1299
Qy 1358 CAGAACTGGATCTGCTAGTAGTGGCTGTGTTAAACGCGCTGCTGTGTTGATCGCAAGA 1417
Db 1300 CAGAATTGAGCTGAGTAGTAGTCCCTGTATGGGCATCTTTGGTCTGTGACCGCAAA 1359
Qy 1418 TATTGGAGGATGTGAAGCCCAACACTACACAACTTCACAGAGGCGCTTATGTAGCA 1477
Db 1360 TACTAGATGAGTTGAAGCCCAATGACTACAACTTCACAAAGAGAGCATATGTAGCA 1419
Qy 1478 AGCCAAAGAGCTCTCTCACCTTGGCCATTTGCTTATGAAATCTCTGTGCCCCCTAATA 1537
Db 1420 AATCAAGAGATGTGATTGCAATTACCTATTGCAATATGCAAAATCTCTGTGCTCTCTACAA 1479

Qy 1538 GAACCTCTCTCCACTAGCAAGA 1561
Db 1480 AACTGCTCTCTCTCAAGATAAA 1503

RESULT 7
AAQ12495
ID AAQ12495 standard; cDNA; 1646 BP.
XX AAQ12495;
XX AC AAQ12495;
XX 18-SEP-1991 (first entry)
XX Tomato fruit ripening related gene pTOM5.
XX ripening; lycopene; transgenic tomato; ss.
XX Lycopersicon esculentum var. Allisa Craig.
XX Key Location/Qualifiers
XX CDS 201..1436
XX /*tag= a.
XX W09109128-A.
XX 27-JUN-1991.
XX 10-DEC-1990; 90WO-GB01924.
XX 13-DEC-1989; 89GB-0028179.
XX (ICIL) IMPERIAL CHEM INDS. PLC.
XX Bird CR, Grierson D, Schuch W;
XX WPI; 1991-208154/28.

DNA construct to modify synthesis of plant carotenoid(s) -
comprises sequence homologous to gene of clone pTOM5 preceded by
plant promoter

PS Disclosure; Fig 1; 35pp; English.

CC Clone pTOM5 was derived from a cDNA library isolated from ripe
tomato RNA (Slater et al., Plant Molecular Biology 5, 137-147,
1985). The protein it encodes is estimated to have mol. wt. ca.
48kD. pTOM5 is expressed in ripening fruit. Strongest expression is
at the full orange stage of ripening; no expression is detected in
green fruit. See also AAQ12494.

XX SQ Sequence 1646 BP; 529 A; 249 C; 387 G; 481 T; 0 other;

Query Match 48.68; Score 840.4; DB 12; Length 1646;
Best Local Similarity 74.3%; Pred. No. 2.5e-229;
Matches 1221; Conservative 0; Mismatches 331; Indels 92; Gaps 9;

Qy 101 TATATCTCTGAAATTTAGTGGATAGACTCTAGTGGATATCTAC---AAGTATTGCTTTT 157
Db 53 TAATTTTGTGGAGTGGAAATATCTCTAGTGGAAATCTACTAGGAGTAAATTTATTTT 112
Qy 158 TGATAAAATAGGCTGAGGTGAGAGGTAAACATAAGAGAAACAAAACTTTGGGAATTGT 217
Db 113 CTATAAACTAGTAAAGTTTGAAGGTGACA-AAAAGAAAGACAAAAATCTTGAATTGT 171
Qy 218 TTTAGACCACCGAGGTTCTTGTTCATGACATGCTGTTGCTTTGTTGTTGTTGTTT 277
Db 172 TTTAGAACCAACAGGT---TTTCTTGTCTCAGATGCTGTTGCTTTGTTGTTGTTT 228
Qy 278 CTCCCACTTCGAGGCTCTCGAATGGACAGGATTTCTGATTCAGTCCGAGAGCAACC 337
Db 229 CTC---CTTGTGACGCTCTCAATGGACAAAGTTTTCATGGAATCAGTCCGGAGGAAACC 285

QY	338	GCCTCTTTGTATCATCCAGGTTCTCCTAGCTCGAGATAGGAATTTGATGTGGAAATCGGAGAA	397
DB	286	GTATTTTTTATTTCATCCAGG-----CATAGAAATTTGGTGTCCAATGAGAGAA	333
QY	398	TCAAGAAAGGTGGGACACAAAGGTGGAATTTTGGCTCTTTAATTCCTCATCCAAGATATT	457
DB	334	TCAATAGAGT-----	344
QY	458	CATGCTTGGTGGGATCAAGAACTGAAAAGGGAAGCACATTTCTCTGTACAGTCCAGTTGG	517
DB	345	-----GGTGGAAAGCAAACTAATAATGGACGGAATTTCTGTACGGTCTCCTATT	396
QY	518	TGCTAGCCAGCTGGAGAAATAGCTGTGTCAACAGAAAAAGGTGTATGATGTGTAT	577
DB	397	TGCTACTCCATCTGGAGACGCGAGGATGACATCGGAACAGATGCTCTATCATGTGGTT	456
QY	578	TAAAGCAGGCAGCTTTAGTGAAGAGCGAGCTGAGATCTACCGATCATTTAGAACTGAAGC	637
DB	457	TGAGGCAGCGAGCTTGGTGTAGAGGCACTAGATCTACCAATGAGTTAGAAGTGAAGC	516
QY	638	CGGATATTGTTTCCAGGGAATTTGGGCTGTTGAGTGAAGCATATGATCGTTGTGGCG	697
DB	517	CGGATATACCTATTCGGGGGAATTTGGGCTGTTGAGTGAAGCATATGATAGTGTGGT	576
QY	698	AAGTATGTGCAGATATGCAAAAGACATTTTACTTAGAACCAAGCTAATGACCCAGAGA	757
DB	577	AAGTATGTGCAGATATGCAAAAGAGTTTAACTTAGGAACATATGCTAATGACTCCGAGA	636
QY	758	GAAGAAGAGCTATCTGGGCAATATATGTGTGTGCAGAGAACGGATGAGCTTCTTGATG	817
DB	637	GAAGAAGGGCTATCTGGTCATATATGTATGTGTGCAGAGAACAGATGAATCTTGTGATG	696
QY	818	GCCTTAATGCATCCCACTAATCTCGCAAGCTTTAGATAGTGGGAGACCAGCTTGGAAAG	877
DB	697	GCCAAAGCATCATATATTACCCGCGAGCCTTAGATAGTGGGAAATAGGCTAGAG	756
QY	878	ATATTTTCAGTGGCGGCCATTTGTATATGCTTGTAGTGTCTTTTAPCGATACTGTCCCA	937
DB	757	ATGTTTTCATAGGGCGGCCATTTGACATGCTCGATGTGTCTTTGTCCGATACAGTTTCTA	816
QY	938	GATTTCTCTGTGATATTACGACCATTCAGAGATATCATTTGAAGGAATCGTATGACACTGT	997
DB	817	ACTTCCAGTTGTATTTACGCCATTCAGAGATATGATTTGAAGGAATCGGTATGACACTTGA	876
QY	998	GGAATCCAGATACAAAACCTTTCGATGAGCTATATCTCTATTGTACTATGCTTGGTA	1057
DB	877	GAAATCGAGATACAAAACCTTCGACGAACTATACCTTTATGTTATTTGCTTGGTA	936
QY	1058	CTGTAGATGTAGTGTGTCCAGTTATGGGTATTCACCTGAACTCAAAGCAACAACAG	1117
DB	937	CGGTTGGGTTGATGAGTGTTCCAAATATGGGTATCGCCCTGAACTCAAAGCAACAACAG	996
QY	1118	AGAGTCTATATATGCTGCTTTGGCTTTAGGGCTTGCAAATCAACTAACCAATATACTCA	1177
DB	997	AGAGCGTATATATGCTGCTTTGGCTCTGGGGATCGCAAAATCAATTAACTAACATCTCA	1056
QY	1178	GAGATGTAGGAAAGATGCCACAAGAGGAAGTATACTTGCTCAAGATCAATTTAGCAC	1237
DB	1057	GAGATCTTGAGAGATGCCAGAAGGAGTAGTCTACTTGCTGAAGGGTGACCGATAAATGGAGATCT	1116
QY	1238	AGCAGGGCTCTCCGACGAAGACATATTTGCTGGAGAGTGACTGATAAGTGGAGAACT	1297
DB	1117	AGCAGGGCTCTATCCGATGAAGATATATTTGCTGGAAAGGGTGACCGATAAATGGAGATCT	1176
QY	1298	TTATGAAGAAACAATTCAGAGGGCGAGGAATTTCTTTGATGTAGTCAGAGAAAGGTGTCA	1357
DB	1177	TTATGAAGAAACAATACATATGGGCAAGAAAGTCTTTGATGAGGCAAGAAAGCGGTGA	1236
QY	1358	CAGAAGCTGACCTCTGCTAGTAGATGGCTGTGTTAAACAGCGCTGCTGTTGTATCGCAAGA	1417
DB	1237	CAGAATTGAGCTCAGCTAGTAGATTTCCCTGTATGGGCATCTTTGGTCTTTGTACCAGAAA	1296
QY	1418	TATTGCAGAGATTGAAGCCAAACGACTACAACACTTCACAAGGAGGGCTTATGTTAGCA	1477

Db	1297	TACTAGATGAGATTGAAGCCAATGACTACAAACAATTCACAAAGAGAGCATATGTGAGCA	1356		
Qy	1478	AGCCAAAG-AAGCTTCTCACCTTGCCCATTTGGCTTATGC AAAAATCTCTTGTGCCCCCTTAAT	1536		
Db	1357	AATCAAAGCAAGTTGATTGCATTTACCTATTGCGATATGCAAAATCTCTTGTGCGCTCCTACA	1416		
Qy	1537	AGAAGCTTCTCTCCACTAGCAAGACATGAATGAAGTAGTTGAGTCAATGAGTATTATAC	1596		
Db	1417	AAAATGCGCTCTCTTCCAAGATAAAGCATGAAATGAAGATATATATATATATATAGC	1476		
Qy	1597	ACT-----AAAGAACTCAGGTACTTGTAAATGAGATATCTTTTGCTAAATGTGTAT	1648		
Db	1477	AAATGTACATTAGAGAGAAAAAGGAGAGAAATGTTGTGATTTGATATAAATGATATAT	1536		
Qy	1649	CATCAAAAGTAGATTGT-----AAATTCATATGACAAATCTCTTGTGAGAAATATTTTCTCC	1704		
Db	1537	CATAAATATTAGTTGTAGTAAACATTCAATATAAATATCTCTTGTGTAGTTCTTGTATCTTC	1596		
Qy	1705	ACACTCATCAARACCCTCAAGTCAG	1728		
Db	1597	ACTTTATCTCAACTCCTTTGAGAG	1620		
<hr/>					
RESULT 8					
AAV03879					
ID	AAV03879 standard; cDNA; 1316 BP.				
XX	AC	AAV03879;			
XX	DT	29-APR-1998. (first entry)			
XX	DE	Phytoene synthase coding sequence from N. benthamiana.			
XX	KW	Phytoene synthase; transgenic plant; enhanced carotenoid synthesis;			
XX	OS	ultra violet absorber; food colour; ss.			
XX	FN	Nicotiana benthamiana.			
FT	Key	Location/Qualifiers			
CD	CDS	1..1242			
XX	FT	/*tag= a			
XX	PN	US5705624 -A.			
XX	PD	06-JAN-1998.			
XX	PF	27-DEC-1995; 95US-0579667.			
XX	PR	27-DEC-1995; 95US-0579667.			
XX	PA	(DELL/) DELLA-CIOPPA G R.			
XX	FA	(FITZ/) FITZMAURICE W P.			
XX	PA	(GRIL/) GRILL L K.			
XX	PA	(HELL/) HELLMANN G M.			
XX	PA	(KUMA/) KUMAGAI M H.			
XX	PI	Della-Cioppa GR, Fitzmaurice WP, Grill LK, Hellmann GM;			
XX	FI	Kumagai MH;			
XX	DR	WPI; 1998-086196/08.			
XX	PS	P-PSDB; AAW41058.			
PT	DNA encoding tobacco phytoene synthase polypeptides - useful for				
PT	producing recombinant polypeptides or transgenic plants				
PS	Claim 1; Column 21-26; 25pp; English.				

CC This sequence encodes the phytoene synthetase from *Nicotiana benthamiana*.
 CC The phytoene synthetase coding sequence represents a cDNA of the
 CC invention. The isolated nucleic acid molecules are used for producing
 CC recombinant polypeptides or transgenic plants with enhanced ability to
 CC synthesise carotenoids. Phytoene has been used as a ultra violet absorber

CC and other carotenoids have been used as food colours, animal feeds and in the pharmaceutical and cosmetics industries.

XX
SQ Sequence 1316 BP; 403 A; 221 C; 342 G; 350 T; 0 other;

Query Match	46.9%	Score 811.2;	DB 19;	Length 1316;
Best Local Similarity	80.2%	Pred. No. 4.9e-221;		
Matches 1039; Conservative	0;	Mismatches 173;	Indels 84;	Gaps 4;

QY	250	ATGTCGTGCTTGTGTGGGTGTTTCTCCCACTCCGAGGTCGAAATGGGACAGGA	309
Db	1	ATGTCGTGCTTGTGTGGGTGTTTCTCCAC---CTTGAGGTTCTCAAATGGGACAGGA	57
QY	310	TTGTGGATTACGTCCGAGAGAAACGCGTCTTTGTATCATCCAGGTTCTTAGCTCGA	369
Db	58	TTCTTTGGATTCAATCCGGAGGGAACCCGGGTTTGTATGGTCGAGG-----	105
QY	370	GATAGGAATTTGATGTGGAATGGGAAATCAAGAAGGTGGGAGACAAAGGTGGAATTTT	429
Db	106	CATAGGAATTTAGTGTGCAATGAGAGMAACAAGACAGGTGTGGAACAAATCTGGAATTTT	165
QY	430	GGCTCTTTAATTCGTGATCCAGATATTCATGCTTTGGTGGATCMAGAACTGMAAAGGA	489
Db	166	GGTTCCTGTAA-----	175
QY	490	AGCACTTTCTCTGTACAGTCCAGTTTGGTGGCTAGCCAGCTGGGAGAAAT--GACTGTG	540
Db	176	-----AGTCTGCTATGTGGGCTACACCGCGGGAGAATGGCGACGATG	219
QY	547	TCATCAGAGAAAAGGTGTATGATGTGGTATTAAAGCAGGCGACTTTAGTGAAGAGGCAG	606
Db	220	ACATCAGAACAGATGGTTTATGATGTGGTATTGAAACAACACAGCTTTAGTGAAGAGGCAG	279
QY	607	CTCAGATCTACCGATGATTTAGAACTGAACCGGATATTGTTCGAGGGAAATTTGGGC	666
Db	280	TTGAGATCTACTGATGATTTAGAACTGAAGCGGAGATCCCTCTCCCGGGAAATTTGAGC	339
QY	667	TTGTTGAGTGAACATATGATCGTTGTGGCAAGTATGTGCAGAGTATGCAAAGACATTT	726
Db	340	TTGTTGAGTGAACATATCATAGGTGTAGCGAAGTATGTGCAGAGTATGCAGAACATTT	399
QY	727	TACTTAGAACCAAGCTAATGACCCAGAGAGAAGAGAGTATCTGGGCCAATATATGTG	786
Db	400	TACTTAGAACCTATGTGTAATGACTCCAGAGAGAAGAGGGCTATTTGGGCCAATATATGTA	459
QY	787	TGCTGCAGGAGAACGGATCAGCTTGTGTAGTGCCCTAATGATCCACATACACTCCGCAA	846
Db	460	TGCTGCAGGAGAACAGACGAACTTGTGTATGGCCGAATGATCATATTTACTCCCAA	519
QY	847	GCTTTAGATAGGTGGGAGACCAGGCTGGAAGATATTTTCAGTGGCGGCCATTTGATGATG	906
Db	520	GCCTTAGATAGGTGGGAAGACCGCTGGAAGATGTTTTCAGTGGCGGCCATTTGACATG	579
QY	907	CTTGATGCTGCTTTATCCGATACTGTCTCCAGATTTCTCTGTGTATATTCAGCCATTCAGA	966
Db	580	CTCGATGCTGCTTTGTCCGATACTGTTTCCAGTTTCCAGTTGTATATTCAGCCGCTTCAGA	639
QY	967	GATATGATTGAAGGAATGGTATGACATGTGTGGAATCCAGATACAAACACTTTCGATGAG	1026
Db	640	GATATGATCGAAGGAATGGTATGACATGTGGAAGTCCAGATACAGAACTTTGATGAG	699
QY	1027	CTATATCTCTATTGTTACTATGTTGCTGGTACTGTAGGATTTGATGAGTGTTCAGTTATG	1086
Db	700	CTATACCTATATTGTTATTACGTTGCTGTACAGTTGGTGTGAGTGTTCCAATTTATG	759
QY	1087	GGTATTGCACCTGAATCAAAGGCAACACAGAGAGTGTAATAATGCTGCTTTGGCTTTA	1146
Db	760	GGCATCGCACCTGAAATCAAAGGCAACACAGAGAGTGTAATAATGCACTTTGGCTTTG	819
QY	1147	GGGCTTGCAAAATCACTACCAATATACTCAGAGATGTAGAGAGATGCCAGAAAGGA	1206
Db	920	GGTATCGCGAATCAACTACCAACATTTCTAGAGATGTCCGAGAGATGCCAGAAAGGA	879

Qy	1207	AGAGTATAC	TTCCTCAAGATGAAT	TAGCACAGG	CAGGCGCTCTCCGACGAAGACATATTT	1266
Db	880	AGAGCTCTAC	TCTACCTCAAGATGAAT	TAGCACAGG	CAGGCTCTCTCCGACGATGACATATTT	939
Qy	1267	GCTGGAGAGT	GACTGATAGTGGAGGAACTTT	TAGAAGAAACAAATTCAGAGGCGGAGG	1326	
Db	940	ACTGGAAAGT	GACTGATAAATGGGAAGCTTT	TATGAAGAAGCAATTCAGAGGCGCAAGA	999	
Qy	1327	AAATCTTT	CATCAGTCAGAGAAAGGTGTCACAGAACTGG	ACTCTGCTAGTAGATGGCCT	1386	
Db	1000	AAGTCTT	CAANTGAGCGCAGGAAGAGTTACACAACTGAGCT	TCAGTAGCAGATGGCCT	1059	
Qy	1387	GTGTTAA	CAGCGCTGCTGTTGTATCCAAAGATATTGGACGAGATTGAAGCCAAAGACTAC	1446		
Db	1060	GTATGGGCAT	CTTTGCTGTTGTATCCGCCAAATACTCTGCAGAGATCGAAGCCAAATGACTAC	1119		
Qy	1447	AACAAC	TTCAAGAGGAGGCTTATGTTAGCAAGCCAAAGAGCTTCTCACCTTGCCCATTT	1506		
Db	1120	AACAAC	TTCAAAAGAGAGCTTATGTGAGCAAAATCAAAGAAAGCTAATTTCTCTACCTATT	1179		
Qy	1507	GCTTATG	CAAAATCTCTTGTGCCCCCTAATAGAACT	1542		
Db	1180	GCTTATG	CAAAATCTCTTGTGCCCCCTACAAGACT	1215		

[illegible]

WO200009722-A2

24-FEB-2000

10-AUG-1999

10-AUG-1998

07-JUN-1999

(MONS) MONS

Brown SM, 1997

100

P-PSDB; AAY8

Obtaining tr

altered level

Claim 45; pa

The present

Brown SM, Ellich TD, Heck GR, Kishore GM, Logusch EW, Logusch SJ;
Pillar KJ, Rao S, Ream JE;
WPI: 2000-224351/19.
P-PSDB: AAY84101.

Obtaining transgenic plant useful for controlling seed germination and seedling growth comprises transgene comprising a sequence expressing altered levels of an essential hormone.

Claim 45; Page 254-255; 267pp; English.

The present sequence encodes a phytoene synthase polypeptide, which

240	QY	TTTCATGACGACGTCTGTGCTTTGTTGGGTGTGTTCTCCACATCTCCGAGGTCCTCGAA	299
402	Db	TTCTGTTAACATGCTCTATTTGTACGCTATGGGTGTGTTTCGCCGAGTTTCTGAAAGTTTGAG	461
300	QY	TGGCAGCAGGATGTTGGATTCAGTCCGAGAAGAAACCGCTTTGTGTATCATCCAGGTT	359
462	Db	TGGCAATGTTTCTTGGAGCCAAATTCGAGAAAGTTTACCAATTTTTCG-----	507
360	QY	CCTAGCTCGAGATAGGAATTTGATGTGGAATGGGAGAATCAAGAAAGGTGGGAGACAAG	419
508	Db	-----GATAAAAGTTTAATGTACAAATGGAAGAGTTAAGAAAGTAGACACCAAG	557
420	QY	GTGGAAATTTTGCTCTTTAATTTGCTGTATCCAGATATTCATGCTTGGGTGGATCAAGAAC	479
558	Db	GGGTAGATCACGTTATTTGGGGTTTGGAGATTTGATTTCAATTTGCTTGGAGAGACTGGATT	617
480	QY	TGAAA----AGGGAAGCACTTCTCTGTACAGTCCAGT--TTGGTGGCTAGCCCAAGCTCG	533
618	Db	AGAGACCCGGGAAGAAAGATATCGGTATCTCCAGTATTAAATAGCTACCCCCGGGAG	677
534	QY	AGAAATGACTGTCTCATCAGAAAAAGGTGTATGATGTGGTATTAAACGACGCACTTT	593
678	Db	GAGATGACGATGACATCAGACAAAAGCTTTATGATGTCGTTTTAAACCAAGCAGCTTT	737
594	QY	AGTGAAGAGCCAGCTGAGATCTACCGATGATTTAGAAGTGAAGCCGGATATTGTTGTTCC	653
738	Db	GATTAATGACAGTTGAGCTCTAGAGAAAATTTGGAGGTGAACCCGGACATATTATTGCG	797
654	QY	AGGGAATTTGGGCTGTTGAGTGAAGCATATGATCTGTCGGAAGTATGTGCAGAGTA	713
798	Db	AGGAACGCGAAGCTTGCATTTGAAGCTTTATGTCGGTTCGAGAAGTATGTCTGTAATA	857
714	QY	TGCAAAAGACATTTTACTTAGGAACCAAGCTTAATGACCCAGAGAGAAGAGCTATCTG	773
858	Db	TGCCAAGTCAATCTCTACTGGGAACCAAGCTCATGACCCGGAGAGCGCTTAGCTATCTG	917
774	QY	GGCAATATATGTGTGTCAGAGAACGATGAGCTTTGTATGGCCCTAATGTCATCCCA	833
918	Db	GGCGATATATGTATGTGTAGGAGGACATGAGCTTTGTATGGGCTAAACCGCTCAAA	977
834	QY	CATAACTCCGCAAGCTTTAGATAGTGGGAGACCAAGCTTGAAGATATTTCAGTGGCG	893
978	Db	CATAAATCCAACCGCTTAGATAGTGGGAACCAAGATTAGAAGATGTTTTCAAGGGCA	1033
894	QY	GCCATTTGATATGCTTGATGCTGCTTTATCCGATACTGTCTCCAGATTTCCCTGTTGATAT	953
1038	Db	ACOTTTTGATATGCTTGATGCTGCTTTATCTGATACCATTTACCAAGTATCCCTGTGGACAT	1099
954	QY	TCAGCCATTCAGAGATATCATTTGAGGAATCGGTATGGACTGTGGAATCCAGATACAA	1011
1098	Db	CCAGCCATTTAGAGATATGATAGAGGAATCGGATGGATCTGAAGAAATCGAGATACAA	1155
1014	QY	AACCTTCGATGACTATATCTCTATTGTTACTATGTGTGCTGCTACTGTAGGATTTGATGAG	1071
1158	Db	GAATTTGATATGCTGCTGCTGCTTTACTGCTATTATGTGGCTGGTACAGTTGGCTTGATGAG	1211
1074	QY	TGTTCCAGTATGGGTATTTGCACCTGAATCAAGGCAACACAGAGAGTGTATATAATGC	1133
1218	Db	TGTACCAAGTAAATGGGCAATTCACCTGAATCTAAGGCAACAAGAAAGTGTGTATAATGC	1271
1134	QY	TGCTTTGGCTTTTAGGCTTGCAAACTCAACTTAACATATACTCAGAGATGTAGGAGAAGA	1191
1278	Db	AGCTTTATCTTTGGGGATCGCGNACCAGCTGACTAACATCTTAGGGATTTTGGAGAAGA	1333
1194	QY	TGCCAGAAGAGGAGTAGTACTTGCCTCAAGATGAATTAGCACAGCGAGGCTCTCCGA	1255
1338	Db	TGCAAGAAGAGGAAGAGTGTACTCTCAAGATGAATTAGCACAGCAGGTTTATCAGA	1391
1254	QY	CGNAGACATATTTGCTTGGAGAGTGTACTGATAGTGGAGAACTTTTATGAAGAAACAAT	1311

QY 300 TGGGACAGGATTGTTGGATTTCAGTCCGAGAGGAACCGGCTCTTGTATCATCCAGTT 359

Db 636 TGGCAATGTTTCTTCTGGAGCAATTCGAGAAAGTTACCAATTTTCG----- 681
QY 360 CCTAGCTCGAGATAGGATTTGATGTGGAATCGAAGATCAAGAAAGTGGGAGACAAAG 419
Db 682 -----GATAAAGTTTAAATGTACAAATGAAGAGTTAAGAAAGTAGACACCAAG 731
QY 420 GTGGAATTTTGGCTCTTAAATGCTGATCCAAAGATATTGATGCTTGGGTGATCAAGAAC 479
Db 732 CGGTAGATCAGTTTGGGTTTGGAGATTGAGTTTCATTTGCTTGAGAGATCTGGATT 791
QY 480 TGAAG-----AGGAAGCAGTTCTCTGTACAGTCCAGTTTGGTGGCTAGCCAGCTGGAGA 536
Db 792 AGAGACCCCGGAAGAGATTATCGGCTATCCTCCATATTATAGTAAACCCCGCAGGAG 851
QY 537 AATGACTGTCTCATCAGAGAAAGGTGATGATGATGATGATGATGATGATGATGATGATGAT 596
Db 852 AATGACATGACATCAGAGCAAGAGTTTATGATGCTGTTTAAAGCAAGCAGCTTTGAT 911
QY 597 GAAGAGCAGCTGAGATCTACCGATGATTTAGAAGTGAAGCCGATATTGCTTCTTCAGG 656
Db 912 TATAGACATTGAGGTCTAGAGAAATTTGGAGGTGAACCCGACATATTATTGGCAGG 971
QY 657 GAATTTGGCTGTTGAGTGAAGCATATGATCTGTTGGCAAGTATGTCAGAGTATGC 716
Db 972 AAACGCAACGTTGTAATGAAGCTTATGATCGGTGTCAGAGATGATGCTGAATATGC 1031
QY 717 AAGACATTTTACTTGAAGAACCAAGCTATGACCCAGAGAGAAAGAGCTATCTGGGC 776
Db 1032 CAAGTCACTTACTTGGGGAACCCAGCTCATGACCCGAGAGCGTTTAGCTATCTGGGC 1091
QY 777 ---AATATATGTGTGTCAGGAGAACGGATGAGCTGTTGATGGCCCTAATCATCCCA 833
Db 1092 CGATATATATGATGCGTGAAGGAGACAGATGAGCTGTTGATGGCCCTAATCGCTACA 1151
QY 834 CATAACTCCCAAGCTTTAGATAGTGGGAGACAGCTGGAAGATATTTTCAAGTGGCG 893
Db 1152 CATAAATCCACCCGCTTAGATAGTGGGAGCAAGATCAGAGATCTTTTCACAGGCA 1211
QY 894 GCATTTGATATGCTGTGATGCTCTTTATCCGATATGCTCCAGATTTTCTCTTGATAT 953
Db 1212 ACCTCTGGATGATGCTGATGCTCTTTATCTGATACCATTTACCAAGTATCTCTGGACAT 1271
QY 954 TCAGCCATTCAGAGATGATGATTAAGGAATCGCTATGGACTTCTGGAATCCAGATACAA 1013
Db 1272 CCAGCCATTTAGAGATGATGATGAAGGAATCGCGATGGATCTGAAGAAATCGAGATACA 1331
QY 1014 AACTTTGATGATCTATCTCTATTGTTACTATGTTGCTGTACTGTAGGATGATGAG 1073
Db 1332 GAATTTGATGATGATCTCTTTACTGCTATTATGTTGGCTGGCAGCTGGCTTTGATGAG 1391
QY 1074 TGTTCAGTTATGGGTATTCGACCTGAATCAAGGAACCAACAGAGAGTGTATATATGC 1133
Db 1392 TGTACCAAGTAAATGGGATTCGACCTGAATCTAAGGCAACCAAGAAAGTGTATGATGC 1451
QY 1134 TGTTTGGCTTTAGGCTTCAATCAACTAATCACTATCTCAGAGATCTAGAGAAAGA 1193
Db 1452 AGCTTATCTTTGGGATCCGAAACAGCTGACTACATCTAAGGGATTTGGGAAAGA 1511
QY 1194 TGCAGAGAGAGAGATGATCTTGGCTCAAGATGAATTAGCAGAGCGGCTCTCCGA 1253
Db 1512 TCGAAGAGAGAGAGAGTGTACCTACCTCAAGATGAATTAGCAGAGAGGTTTATCAGA 1571
QY 1254 CGAAGACATATTGCTGGAAGAGTGTACTGATGATGATGATGATGATGATGATGATGATGAT 1313
Db 1572 TGAGGACATTTTGTCTGGAAAGTTACAGACAAATGGAGGATTTTATGAAGAAAGAAAT 1631
QY 1314 TCAGAGGCGGAGGAAATTTCTTATCAGTCAGAGAAAGTGTACAGAACTGACCTCTGC 1373
Db 1632 CAAAGGGCTGAGAAATTTCTNATGATGATGATGATGATGATGATGATGATGATGATGATGAT 1691
QY 1374 TAGTATGATGCTGTGTATACAGCGCTGCTGTTGTATCGCAAGATATTGGACGAGATTGA 1433
Db 1692 GAGCAGATTCCCTGTGTGGGCAACCGTTGCTTTTTATAGAAATATTTGATGATGATGATGATGAT 1751

QY 1434 AGCCAGGACTACAACTTCACAGGAGGGCTTATGTTAGCAAGCCAAAGAGCTTCT 1493
Db 1752 AGCAATGACTACAACTTCACAGGAGGGCTTATGTTAGCAAGCCAAAGAGCTTCT 1811
QY 1494 CAGCTTGGCCATTGCTTATGCAAAATCTCT 1523
Db 1812 AGCTATGCTGTAGCATGTCCTAAGTCTCT 1841

RESULT 13

AAV16950
ID AAV16950 standard; cDNA to mRNA; 1932 BP.

XX AAV16950;

DF 06-JUL-1998 (first entry)

XX Nucleic acid encoding phytoene synthase 3.

KW Phytoene synthase; breeding; variable flower colour; ds.

XX Gentiana lutea.

XX Key Location/Qualifiers
FT CDS 499..1785
FT /*tag= a

PN JP10084966-A.

PD 07-APR-1998.

PF 17-SEP-1996; 96JP-0245107.

PR 17-SEP-1996; 96JP-0245107.

XX (IWAT-) IWATE KEN.

XX WPI; 1998-264853/24.

DR P-PSDB; AAW46963.

XX Phytoene synthase gene - useful for breeding plant of variable flower colour

XX Claim 3; Pages 10-12; 15pp; Japanese.

XX The present sequence encodes phytoene synthase 3. It was isolated from a cDNA library prepared from mRNA extracted from the petals of Gentiana lutea. The nucleic acid sequence was amplified from the library using PCR primers AAV16952-53. The phytoene synthase gene is useful for breeding plants with variable flower colours.

XX Sequence 1932 BP; 635 A; 302 C; 434 G; 561 T; 0 other;

Query Match 37.8%; Score 653.4; DB 19; Length 1932;

Best Local Similarity 72.6%; Pred. No. 6.8e-176;

Matches 940; Conservative 0; Mismatches 321; Indels 34; Gaps 6;

QY 240 TTTTCATGAGCATCTGTTGCTTTGTTGCTGTTGTTTCTCCCACTTCCGAGGCTCGAA 299

Db 489 TTTCTTACATGCTCTATTGTTAGCTATGGTTGTTTCCCGAGTTCTGAAGTTTGAG 548

QY 300 TGGGACAGGATTTGGATTTCAGTCCGAGAAAGAAACCGGCTCTTTGTCATCATCCAGTT 359

Db 549 TGSCAATGTTTCTTGGAGCCAATTCGAGAAAGTTACCAATTTTCG----- 594

QY 360 CCTAGCTCGAGATGAGAAATTTGATGTTGGAATGAGGAGAAATCAAGAAAGTGGGAGACAAAG 419

Db 595 -----GATAAAGTTTAAATGTACAATGGAAGAGTTAAGAAAGGATGACACCAAG 644

QY 420 GTGGAATTTTGGCTCTTTAATTCGTATCCCAAGATATTTCATGCTTGGTGGATCAAGAAC 479

Db 645 GCGTATACGTTATGGGTTTGAGATTTGAGTTCAATTTTCTTGAGAGTCTGGATT 704

QY 480 TGA---AGGAAGCATTCTCTGTACAGTCCAGTTGGTGGCTAGCCAGCTGGAGA 536
Db 705 AGAGACCCCGGAAGAGATATCGTATCCCTCCAGTATATAGCTACCCCGCAGGAGA 764
QY 537 ATGACTGTCTCATCAGAGAAAGGTGTATGCTGTTTAAAGCAGGAGCTTTAGT 596
Db 765 ATGACGATGATCAGAGCAAGAGTTTATGATCTGCTTTTAAAGCAGGAGCTTTGAT 824
QY 597 GAAGAGGAGCTGAGATCTACCGATGATTAGAACTGAAGCCGATATTTGTTTCCAGG 656
Db 825 TAATAGACATGAGCTCTAGAGAAATTTGAGCTGAACCGACATATTTTCCAGG 884
QY 657 GAATTTGGCTTTGAGTGAAGCATATGATCGTTGGCGGAAGTATGTGACAGATATGC 716
Db 885 AAACGCGACGTTGAATGAAGCTTATGATCGGTGTCGAGAAATGCTGTGAATATGC 944
QY 717 AAAGACATTTTACTTGAAGCAACCAAGCTAATGACCCACAGAGCAAGAGCTATCTGGC 776
Db 945 CAAGTCATCTCTGAGGAGCCAGCTCATGACCCGAGAGGCGTTTAGCTATCTGGGC 1004
QY 777 AATATATGTGTGTGAGGAGCAAGCATGAGCTTGTGATGGCCCTAATGCTATCCACAT 836
Db 1005 GATATATGTGTGTGAGGAGCAAGCATGAGCTTGTGATGGCCCTAATGCTATCCACAT 1064
QY 837 AACTCGCAAGCTTTAGATAGTGGGAGACAGGCTGGAAGATATTTTCAAGTGGCGGCC 896
Db 1065 AAATCCCAACCGGTTAGATAGTGGGAGCAAGATTTAGAGATGTTTCAAGGCGCAAC 1124
QY 897 ATTTGATATGCTGTGATGCTGCTTTATCCGATCTCTCCAGATTTCCCTGTTGATATCA 956
Db 1125 TTTTGATATGCTGTGATGCTGCTTTATCTGATACCATTAACCAAGTATCTGTGGACATCCA 1184
QY 957 GCCATTGAGATATGATTAAGGAATGCTATGACCTGTGGAATCCAGATACAAAC 1016
Db 1185 GCCATTGAGATATGATTAAGGAATGCGGATGATCTGAAGAAATCGAGATACAGAA 1244
QY 1017 TTTGATGAGCTATATCTATTTGATGATGCTGCTGATGATGATGATGATGATGATGAT 1076
Db 1245 TTTGATGAGCTATATCTATTTGATGATGCTGCTGATGATGATGATGATGATGATGAT 1304
QY 1077 TCCAGTATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGCTG 1136
Db 1305 ACCAGTATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTG 1364
QY 1137 TTTGCTTTAGGCTTGGCAATCAACTAATCACTAATCACTAATCACTAATCACTAATCACTA 1196
Db 1365 TTTATCTTTGGGATCGGCAACCACTGATCACTAATCACTAATCACTAATCACTAATCACTA 1424
QY 1197 CAGAGAGGAGATATCTTCCCTCAAGATGAATAGCAGAGGAGGCTCTCCGAGCA 1256
Db 1425 AAGAGAGGAGAGTGTACCTACCTCAAGATGAATAGCAGAGGAGGCTCTCCGAGCA 1484
QY 1257 AGACATATTTGCTGGAAGAGTCACTGATAGTGGAGGAGCTTTATGAAGAACTCA 1316
Db 1485 GGACATTTTGTGGAAGAGTCTCAGACAAATGGAAGATTTTATGAAGAGCAATCA 1544
QY 1317 GAGGCGGAGAAATCTTTGATGA-GTCAGAGAAAGGTGTACAGAACTGGACTCTG-CT 1374
Db 1545 AAGGCTAGAAATCTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 1604
QY 1375 AGTAGAGGCTGTGT----TAACAGCGCTGCTGTTGATGCCAAGATATTTGACGAGAT 1430
Db 1605 AGCAGATTCCTGTGTGGGCGAGCGCTTTGCTTTTTTATAGAAATATTTGATGATGAT 1664
QY 1431 TGAAGCCACGACTACACAACTTC-ACAAGGAGGCTTATGTTAGCAAGCCAAAGAGC 1489
Db 1665 AAGAGCAATGATCTACAAATTTCAACAAAGAGGCTTATGTTAAGCAAGGCAAGAGC 1724
QY 1490 TTTCACTCTGCTGCTTATGCTTATGCTTATGCTTATGCTTATGCTTATGCTTATGCTTAT 1524
Db 1725 TATTAGCTATGCTGTAGCATGTGCCAAGTCTCTT 1759

RESULT 14

AAC35120
ID AAC35120 standard; DNA; 1703 BP.
XX AAC35120;
AC AAC35120;
DT 17-OCT-2000 (first entry)
XX Arabidopsis thaliana DNA fragment SEQ ID NO: 9067.
DE Arabidopsis thaliana
XX Hybridisation assay; genetic mapping; gene expression control;
KW protein identification; signal transduction pathway;
KW metabolic pathway; promoter; termination sequence; ss.
OS Arabidopsis thaliana.
XX
PN EP1033405-A2.
XX
PD 06-SEP-2000.
XX
XX 25-FEB-2000; 2000EP-0301439.
PR 25-FEB-1999; 99US-0121825.
PR 05-MAR-1999; 99US-0123180.
PR 09-MAR-1999; 99US-0123548.
PR 23-MAR-1999; 99US-0125788.
PR 25-MAR-1999; 99US-0126264.
PR 29-MAR-1999; 99US-0126785.
PR 01-APR-1999; 99US-0127462.
PR 06-APR-1999; 99US-0128234.
PR 08-APR-1999; 99US-0128714.
PR 16-APR-1999; 99US-0129845.
PR 19-APR-1999; 99US-0130077.
PR 21-APR-1999; 99US-0130449.
PR 23-APR-1999; 99US-0130510.
PR 23-APR-1999; 99US-0130891.
PR 28-APR-1999; 99US-0131449.
PR 30-APR-1999; 99US-0132048.
PR 30-APR-1999; 99US-0132407.
PR 04-MAY-1999; 99US-0132484.
PR 05-MAY-1999; 99US-0132485.
PR 06-MAY-1999; 99US-0132486.
PR 06-MAY-1999; 99US-0132487.
PR 07-MAY-1999; 99US-0132863.
PR 11-MAY-1999; 99US-0134256.
PR 14-MAY-1999; 99US-0134218.
PR 14-MAY-1999; 99US-0134219.
PR 14-MAY-1999; 99US-0134221.
PR 14-MAY-1999; 99US-0134370.
PR 18-MAY-1999; 99US-0134768.
PR 19-MAY-1999; 99US-0134941.
PR 20-MAY-1999; 99US-0135124.
PR 21-MAY-1999; 99US-0135353.
PR 24-MAY-1999; 99US-0135629.
PR 25-MAY-1999; 99US-0136021.
PR 27-MAY-1999; 99US-0136392.
PR 28-MAY-1999; 99US-0136782.
PR 01-JUN-1999; 99US-0137222.
PR 03-JUN-1999; 99US-0137528.
PR 04-JUN-1999; 99US-0137502.
PR 07-JUN-1999; 99US-0137724.
PR 08-JUN-1999; 99US-0138094.
PR 10-JUN-1999; 99US-0138540.
PR 10-JUN-1999; 99US-0138847.
PR 14-JUN-1999; 99US-0139119.
PR 16-JUN-1999; 99US-0139452.
PR 16-JUN-1999; 99US-0139453.
PR 17-JUN-1999; 99US-0139492.
PR 18-JUN-1999; 99US-0139454.
PR 18-JUN-1999; 99US-0139455.
PR 18-JUN-1999; 99US-0139456.
PR 18-JUN-1999; 99US-0139457.

protein identification: signal transduction pathway;
metabolic pathway; promoter; termination sequence; ss.

Arabidopsis thaliana.

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QY 654 AGGAATTTGGGCTTTGAGTGAAGCATATGATCTGTGGGAAAGTATGTGCAGAGTA 713
DB 655 TGGAGTTTGGTGTGGTGAAGCTTATGATCGGTGAAGTTTGGCTCAATA 714
QY 714 TGCAGAGACATTTTACTTAGGACCAACAGCTATGATGACCCAGAGAGAGAGACTATCTG 773
DB 715 TGTAGACGTTTATCTTGGAACTTGTCTTATGACCCGAAAGCGGAAAGCGGATTTG 774
QY 774 GGCATATATGTGTGTGAGGAGAACGGATGAGCTGTGTGATGGCCCTAATGCATCCCA 833
DB 775 GGCATCTAGTTTGTGTAGAGAACTGATGAACCTTGTGGATGGCCCAATGCTTCACA 834
QY 834 CATAACTCCCAAGCTTTAGATAGTGGAGACCGAGCCGCTGGGAAGATATTTTCACTGGGG 893
DB 835 TATACTCCCATCGCTTTAGATAGTGGGAAGCAAGCTTAGAGATCTTTCCGTTGGTGC 894
QY 894 GCCATTTGATGCTTGTGCTGCTTTATCCGATAGCTGCTCCAGATTTTCTGTTGATAT 953
DB 895 TCCTTTGATATGCTTGTGCTGCTCTCGTGATACAGTTGCTAGATACCTGTCGATAT 954
QY 954 TCAGCCATTCAGACATATGATGAAGGAATGCGTATGAGCTTGTGGAATCCAGATACAA 1013
DB 955 TCAGCCATTCAGACATATGATGAAGGAATGAGATGAGCTTGAAGAAATCGAGATACCA 1014
QY 1014 AACTTTGATGATATCTCTTATGTTACTATGTTGCTGCTGCTGCTGCTGCTGCTGCTG 1073
DB 1015 GAACTTCGATGATCTATACCTTTTACTGCTACTGCTGCTGCTGCTGCTGCTGCTGCTG 1074
QY 1074 TGTTCAGTTATGGGTATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 1133
DB 1075 CGTTCGGTTATGGGAATCGATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 1134
QY 1134 TGTTCGGTTATGGGTATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 1193
DB 1135 TGCCTTGGCCCTTGTATAGCCAACTAGCTTACTACTACTACTACTACTACTACTACTACT 1194
QY 1194 TGCAGAGAGAGAGATATCTTGTGCTCAAGATGAATAGTACACAGGAGGCTCTCCGA 1253
DB 1195 TGGGAGAGAGAGAGAGGTTTATCTGCTCAGGATGAATGGCTCAGGCTGCTTTCAGA 1254
QY 1254 CGAAGACATATTTGCTGGAAGAGTACTGATAGTGGAGGAACTTTATGAGAAACAAT 1313
DB 1255 TGAAGACATATTCGCGGAAAGTAACTGATAATGGAAACTTCATGAAATGCACT 1314
QY 1314 TCAGAGGCGGAGGAAATCTTTGATGAGTCAGAGAAAGTGTCCACAGAACTGGACTCTGC 1373
DB 1315 TAAACGAGCAAGATCTTCTTCACGAGCTGAGAAGGCTCACCAGCTCAGTCCCGC 1374
QY 1374 TAGTAGATGCTGCTTAAACGCGCTGCTGTTGATCCGAAGATATGACGAGATTGA 1433
DB 1375 TAGCAGATGCTGCTGATGGCTTCAATGCTTATGACAGGAGAACTACTGACGAGATTGA 1434
QY 1434 AGCCAGGACTCAACAACCTTCACAGGAGGCTTATGTTAGCAAGCCAAAGAGCTTCT 1493
DB 1435 AGGAGATGATCAACAATTTTACTAAGAGAGCTTATGTTGGGAAAGTCAAGAAATTCG 1494
QY 1494 CACCTTGGCCATTCCTTATGCAAAATC 1520
DB 1495 AGCTTTGCCATTTGGCTTATGCTAAATC 1521

RESULT 15
AAC48162
ID AAC48162 standard; DNA; 1566 BP.
XX AC AAC48162;
XX DT 18-OCT-2000 (first entry)
XX DE Arabidopsis thaliana DNA fragment SEQ ID NO: 56485.
XX KW Hybridisation assay; genetic mapping; gene expression control;
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PR 24-JUN-1999; 99US-0140695.
PR 28-JUN-1999; 99US-0140823.
PR 29-JUN-1999; 99US-0140991.
PR 30-JUN-1999; 99US-0141287.
PR 01-JUL-1999; 99US-0141842.
PR 01-JUL-1999; 99US-0142154.
PR 02-JUL-1999; 99US-0142055.
PR 06-JUL-1999; 99US-0142390.
PR 08-JUL-1999; 99US-0142803.
PR 09-JUL-1999; 99US-0142920.
PR 12-JUL-1999; 99US-0142977.
PR 13-JUL-1999; 99US-0143542.
PR 14-JUL-1999; 99US-0143624.
PR 15-JUL-1999; 99US-0144005.
PR 16-JUL-1999; 99US-0144086.
PR 16-JUL-1999; 99US-0144086.
PR 19-JUL-1999; 99US-0144325.
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PR 28-JUL-1999; 99US-0145951.
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PR 03-AUG-1999; 99US-0147038.
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PR 12-AUG-1999; 99US-0148341.
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PR 16-AUG-1999; 99US-0149368.
PR 17-AUG-1999; 99US-0149175.
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PR 20-AUG-1999; 99US-0149723.
PR 20-AUG-1999; 99US-0149929.
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PR 23-AUG-1999; 99US-0149930.
PR 25-AUG-1999; 99US-0150566.
PR 26-AUG-1999; 99US-0150884.
PR 27-AUG-1999; 99US-0151065.
PR 27-AUG-1999; 99US-0151066.
PR 27-AUG-1999; 99US-0151080.
PR 30-AUG-1999; 99US-0151303.
PR 31-AUG-1999; 99US-0151438.
PR 01-SEP-1999; 99US-0151930.

PR 07-SEP-1999; 99US-0152363.
PR 10-SEP-1999; 99US-0153070.
PR 13-SEP-1999; 99US-0153758.
PR 15-SEP-1999; 99US-0154018.
PR 16-SEP-1999; 99US-0154039.
PR 20-SEP-1999; 99US-0154779.
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PR 04-OCT-1999; 99US-0157117.
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PR 06-OCT-1999; 99US-0157865.
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PR 25-OCT-1999; 99US-0161406.
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PR 26-OCT-1999; 99US-0161361.
PR 28-OCT-1999; 99US-0161920.
PR 28-OCT-1999; 99US-0161922.
PR 28-OCT-1999; 99US-0161993.
PR 29-OCT-1999; 99US-0162142.

Query Match 33.5%; Score 578.4; DB 21; Length 1566;
Best Local Similarity 72.5%; Pred. No. 16e-154;
Matches 766; Conservative 0; Mismatches 281; Indels 9; Gaps 1;

QY 474 AGAACTGAAAGGGAAGCAGCTTTCTCTGTACAGTCCAGTTTGGTGGCTAGCCAGCTGG 533
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Db 329 AAGGAACCGAAGTAGAAGAATTGGTGTGCTTCAAGCTTAGTAGCAAGTCTCTTGG 388
    ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
QY 534 AGAAATGACCTGTGTCATCAGAGAAAGGTCATGTATGCTGTATTAAGCAGGAGCTTT 593
    ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
Db 389 AGAGATAGCTCTTTCATGGAAGAAAGGTTTACAATGTTGTGTGAACCAAGCTGCTTT 448
    ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
QY 594 AGTGAAGAGGAGCTGAGATCTAC-----CGATGATTTAGAAGTGAAGCCGGATAT 644
    ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 449 GGTGAACAACACGCTAAGGCTCTTCTTATGACCTTGATGTGAAGAACCACCAAGATGT 508
    ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
QY 645 TGTGTTCCAGGGAATTTGGGCTTTGTGTAGTGAAGCATATGATCGTTGTGCGGAAGTATG 704
    ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 509 TGTCTTCTGGGAGTTGAGTTTGTGGTGAAGCTTATGATCGATCGCGTGAAGTTTG 568
    ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
QY 705 TGCAGACTATGCAAGACATTTTACTTAGGNACCAAGCTATGACCCCGAGAGAGAG 764
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Db 569 CGCTGAATATGCTAAGACGTTTATCTTGGAACTTTGTTATGACACCCGAAAGCGGAAA 628
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QY 765 AGCTATCTGGCAATATATGTGTGTGTCAGGAGAACGATGAGCTTGTGTGATGCCCTAA 824
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Db 629 GCGATTTGGCAATCTACGTTTGGTAGAAGAACTGATGACTTGTGATGGCCCAAA 688
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Qy	825	TGATCCCACTAATCTCCGAAGCTTTAGATAGTGGGAGACCAGGCTGGAAGATATTTT	884
Db	689	TGCTTACATATAAAGTCCCATCCCATGCGCTTATAGATAGATGGGAAGGTTAGAAGATCTTT	748
Qy	885	CAGTGGGGCCCATTTGATATGCTTGATGCTTGCTTTATCCGATACTGCTCCAGATTTCC	944
Db	749	CGGTGTGCTGCTTTTCGATATGCTTGGATGCTGCTCTCGCTGATACAGTTCTGTAGATACC	808
Qy	945	TGTTGATATTCAGCCCATTCAGAGATATCATTTGAAGGAATCGGTATGCATTTGGGAATC	1004
Db	809	GGTCGATATTCAGCCATTCGAGACATGATCGAAGGAATGAGAATGGACTTGAAGAAATC	868
Qy	1005	CAGATACAAAACCTTTTCGATGAGCTATATCTCTATTGTTACTATGTTCTGGTACTGTAGG	1064
Db	869	GAGATACCAAGACTTCGATGATCTATACCTTTACTGCTACTGCTGGACCGCTGG	928
Qy	1065	ATTGATGAGTGTTCAGTTATYGGGTATTTGCACCTGTAATCAAGGCAACAACAGAGAGTGT	1124
Db	929	ATTGATGAGCGTTCGGGTTATGGGAATCGATCCTTAAGTCGAAAGCAACAACCGAAAGTGT	988
Qy	1125	ATATAATGCTGCTTTGGCTTTAGGCGTTGCAAAATCAACTACCAATATATCTCAGAGATGT	1184
Db	989	TTACAAGCTGCTTTGGCCCTTTGGTATAGCCAAATCAGCTTACTAACATAGCTCAGAGACGT	1048
Qy	1185	AGGAGAAGATGCCAGAAGAGGAGTATCTTGCCTCAAGATGAAATTCACACAGCAGG	1244
Db	1049	AGCGAAGATCGGAGNAGNAGGTTTATCTGCCTCAGATGAAATGGCTCAGGCTGG	1108
Qy	1245	GCTCTCCGACGAGACATATTTGCTGGAAGAGTCACTGATAAGTGGAGGAACCTTTATGAA	1304
Db	1109	TCCTTCAGATGAAGACATATCCGCGGAAAAAGTAAC TGATAAATGGAGAACTTCATGAA	1168
Qy	1305	GAACAATAATCAGAGGGCGAGGAATTCCTTTGATGAGTCAGAGAAAGGTGTACAGAACT	1364
Db	1169	AATGCACTTAACACGACGAAGAAATCTCTTCGACGAAGCTGAGAAAGCGCTCACCAGCT	1228
Qy	1365	GGACTCTGCTAGTAGATGGCCCTGTAAACAGCGCTGCTGTGATCGCAAGATATTGGA	1424
Db	1229	CAGTGGCGCTAGCAGATGGCCCTGTATGGGCTTCATTGCTATGTCAGGAGAATCTGGGA	1288
Qy	1425	CGAGATTGAAGCCCAACGACTACAAACAACCTTCACAAGGAGGCGCTTATGTTAGCAAGCCAAA	1484
Db	1289	CGAGATTGAAGCGAATGATTACAACAATTTTACTTAAGAGAGCTTATGCTGGGGAAGTCAA	1348
Qy	1485	GAAGCTTCTACCTTGGCCCATTCCTTTATGCCAAAATC	1520
Db	1349	GAAAATTTGACGCTTTGCCATTTGGCTTTATGCTGCTAAATC	1384

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Job time : 409 secs